

CLAIMS

1. A water-dispersed slurry coating, comprising: (A) particulates comprising (a1) a resin having a group containing
5 an active hydrogen; and (B) a reactive surfactant comprising a hydrophilic moiety and a hydrophobic moiety and having at least one group selected from the group consisting of an isocyanate group, a blocked isocyanate group and an epoxy group in the hydrophilic moiety, in aqueous medium.

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2. The water-dispersed slurry coating according to claim 1, further comprising (a2) a curing agent.

3. A water-dispersed slurry coating, comprising: (A)
15 particulates comprising (a1) a resin having a group containing an active hydrogen; (B0) a reactive surfactant comprising a hydrophilic moiety and a hydrophobic moiety and having at least one group selected from the group consisting of an amino group, a hydroxyl group and a carboxyl group in the hydrophilic moiety;
20 and (a2) a curing agent, in aqueous medium.

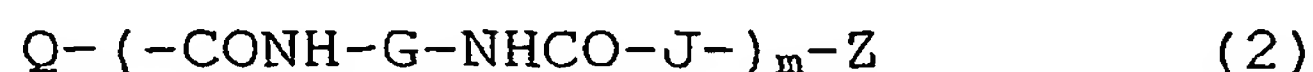
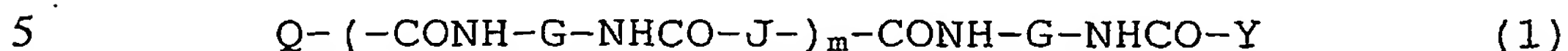
4. The water-dispersed slurry coating according to any one of claims 1 to 3, wherein the reactive surfactant (B) and (B0) comprise a hydrophobic moiety having an aromatic
25 ring-containing hydrocarbon group having 6 to 100 carbon atoms.

5. The water-dispersed slurry coating according to any one of claims 1 to 4, wherein the reactive surfactant (B) and (B0) have an oxyethylene group in a content of not less than 20% and not more than 97% by weight based on a weight of (B) or (B0) respectively.

6. The water-dispersed slurry coating according to any one of claims 1 to 5, wherein the reactive surfactant (B) and (B0) comprise a hydrophilic moiety having a polyoxyethylene chain of a weight average molecular weight of not less than 1,000 and not more than 4,000, and a weight average molecular weight of the reactive surfactant (B) and (B0) are not less than 1,500 and not more than 30,000.

7. The water-dispersed slurry coating according to any one of claims 1, 2, 4 to 6, wherein the reactive surfactant (B) is a urethane resin comprising: (b3) an addition reaction product of (b1) a monohydric phenol or a monohydric aromatic alcohol and (b2) a vinyl monomer according to need, or an alkylene oxide adduct of the addition reaction product; (b4) an organic diisocyanate; (b5) a diol and/or a diamine having a polyoxyalkylene chain; and (b6) a blocking agent or (b7) a polyepoxy compound, as main components, wherein said (b3) and/or said (b5) comprises an oxyethylene group, and an isocyanate group which may be blocked or an epoxy group is added to said (b3) and/or said (b5).

8. The water-dispersed slurry coating according to claim 7, wherein the reactive surfactant (B) comprises one or more of compounds represented by the general formulae (1) or (2);



wherein, Q represents a residue of (b3) an addition reaction product of (b1) a monohydric phenol or a monohydric aromatic alcohol and (b2) a vinyl monomer according to need, or an alkylene oxide adduct of the addition reaction product; G represents a
10 residue of (b4) an organic diisocyanate; J represents a residue of (b5) a diol and/or a diamine having a polyoxyalkylene chain; Y represents a residue of (b6) a blocking agent; and Z represents a residue of (b7) a polyepoxy compound; wherein a plurality of
15 G and a plurality of J may be same or different each other, respectively; and m is 1 to 20.

9. The water-dispersed slurry coating according to any one of claims 1, 2, 4 to 6, wherein the reactive surfactant (B)
20 is a compound comprising: (b3') an alkylene oxide adduct of an addition reaction product of (b1) a monohydric phenol or a monohydric aromatic alcohol and (b2) a vinyl monomer according to need; and (b6) a blocking agent or (b7) a polyepoxy compound, as main components, wherein said (b3') comprises an oxyethylene
25 group, and an isocyanate group which may be blocked or an epoxy group is added to said (b3').

10. The water-dispersed slurry coating according to claim 9, wherein the reactive surfactant (B) comprises one or more of compounds represented by the general formulae (3) or
 5 (4);

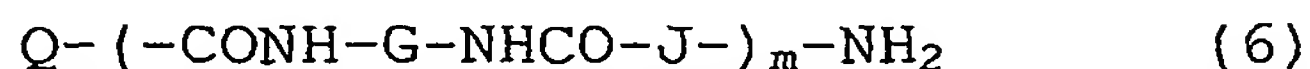


wherein, Q' represents a residue of (b3') an alkylene oxide adduct of an addition reaction product of (b1) a monohydric phenol or
 10 a monohydric aromatic alcohol and (b2) a vinyl monomer according to need; G represents a residue of (b4) an organic diisocyanate; Y represents a residue of (b6) a blocking agent; and Z represents a residue of (b7) a polyepoxy compound.

15 11. The water-dispersed slurry coating according to any one of claims 3 to 6, wherein the reactive surfactant (B0) is a compound comprising: (b3'') an alkylene oxide adduct of an addition reaction product of (b1) a monohydric phenol or a monohydric aromatic alcohol and (b2) a vinyl monomer according
 20 to need; (b4) an organic diisocyanate; and, (b5') a diol and/or a diamine having a polyoxyalkylene chain, as main components, and having an amino group or a hydroxyl group on one of the terminal ends thereof.

25 12. The water-dispersed slurry coating according to claim 11, wherein the reactive surfactant (B0) comprises one

or more of compounds represented by the general formulae (5)
or (6);



5 wherein, Q, G and J are same as above; wherein a plurality of
G and a plurality of J may be same or different each other,
respectively; and m is 1 to 20.

13. The water-dispersed slurry coating according to any
10 one of claims 1 to 12, wherein the resin having a group containing
an active hydrogen (a1) is at least one of selected from the
group consisting of an acrylic resin, a polyester resin, a
polyurethane resin and an epoxy resin.

15 14. The water-dispersed slurry coating according to any
one of claims 1 to 13, wherein a volume average particle diameter
of the particulate (A) is not less than 0.5 μm and not more than
50 μm .

20 15. The water-dispersed slurry coating according to any
one of claims 1 to 14, wherein the particulate (A) is a spherical
shape having a major axis/minor axis ratio in the range of 1.0
to 1.5.

25 16. The water-dispersed slurry coating according to any
one of claims 1 to 15, wherein the particulate (A) is obtained

by dispersing a solvent solution of the resin having a group containing an active hydrogen (a1) in water and desolvating the solvent.

- 5 17. A film obtained by applying a water-dispersed slurry coating according to any one of claims 1 to 16 and baking the same.